

REMARKS

In the Office Action mailed 12/24/2003, Claims 9-12, 14-17 and 19-32 were rejected as being obvious over the prior art under 35 U.S.C. § 103.

Claim 21 was objected to, but were indicated to contain allowable subject matter.

In response, Applicant has submitted the proposed amendments to claims 9, 14, 19 and 26 in view of the prior art, as discussed below. Applicant has further proposed the addition of new claim 33.

For the reasons set forth below, reconsideration of the rejections is requested and allowance of the present application is submitted to be in order.

Response to the Examiner's Argument

In response to the Examiner's "Response to Arguments" in the subject Office Action, Applicant respectfully disagrees. First, Applicant did and does attack the combination of Eckhardt and the prior art cited in Applicant's original disclosure. Applicant's approach was simply to attack one reference at a time – of course, Applicant is clearly aware of what it itself disclosed as prior art. By making specific attacks on the Eckhardt patent, Applicant is attacking the combination, because if neither of the combined references discloses or hints at Applicant's claimed invention, then of course the combination cannot hint or disclose the claimed invention. To state it more clearly, the admitted prior art fails to disclose the invention claimed by Applicant in independent Claims 9, 14, 19 and 16, and as discussed in the response filed 10/15/03 (incorporated herein by reference), Eckhardt, too, fails to disclose or hint at Applicant's claimed process or method.

Furthermore, Applicant reasserts that Eckhardt does teach away from Applicant's claimed invention because Eckhardt acts on a predetermined ideal pressure, rather than a current actual chamber pressure. It is unclear why the Examiner concludes that such a comparison would not suggest to one of ordinary skill in the art that it is teaching away from Applicant's claimed invention – by acting on a predetermined “ideal” pressure, Eckhardt advocates or teaches away from using the actual pressure. The same condition applies to the position deviation choice of Eckhardt.

In an attempt to make the nonobviousness argument even more irrefutable, Applicant has proposed amendment to all claims herein to limit the scope of the claimed process and/or method to the process chamber for semiconductor processing equipment. This is consistent with Applicant's original disclosure, and further supports Applicant's position that its invention is nonobvious. Applicant respectfully asserts that, in view of these amendments, the declarations of David Kruse and Per Cederstav, previously filed in this case, are not moot on this point. Specifically, Mr. Cederstav declared that the state of the art in the semiconductor processing equipment industry has resorted to open loop motor control for pressure control and fluid flow control. Presumably, this is because the semiconductor equipment industry utilizes stepper motors virtually exclusively. Once this industry switched to stepper motors for pressure and flow control, which provided previously unmatched position control (open loop), it apparently was concluded that this was the best that was available. Certainly, the products of Applicant's “competitors” listed in Mr. Cederstav's declaration demonstrate vastly superior performance to the Eckhardt system. It is this high performance environment that, at least in part, makes all of the cited prior art either nonanalogous because the control criteria of the semiconductor processing

industry is so much more stringent than the industries of the other cited references, or the state of the art teaches an approach that is the opposite of Applicant's approach. Simply stated, generic closed loop motor position control to control pressure or fluid flow is not the same as closed loop motor control to control pressure or fluid flow in the semiconductor industry, because this industry has leading edge technology and demands extraordinarily high accuracy. Despite this, prior to the introduction of Applicant's claimed invention, the industry still chose to use open loop motor control for pressure and fluid flow.

Applicant's position that the invention's application is pertinent to patentability is substantiated in this case by the claim scope of Eckhardt. In fact, despite its title's apparent breadth, the claims are specifically limited to "regulating pressure in a pressure chamber of a pneumatic brake apparatus for a recording medium within a recording device, . . ." [Claim 1, *emphasis added*]. While this admittedly doesn't effect the scope of the Eckhardt disclosure as a reference, it certainly indicates that the preambular limitation of scope to a particular application is pertinent to patentability. Furthermore, nothing in Eckhardt suggests its use in a semiconductor process chamber application, and in fact, it is Applicant's position that it would be unworkable in this environment. Furthermore, there is no suggestion in Applicant's admitted prior art or in Eckhardt as to why closed loop position control might be applied to pressure or fluid flow control in the semiconductor industry. As such, Applicant very respectfully asserts that the combination is not obvious, and even if it was, its disclosure wouldn't hint or suggest at Applicant's claimed processes and methods.

Still further, it is again noted that prior art cited by Applicant as to Pressure Control pertaining to Semiconductor Process Equipment was Open Loop Stepper Motor Control, which attains stable positions with a high degree of addressable resolution. This

motor type is unlike the Direct Current Motor type cited as prior art in Eckhardt, where applying a voltage causes the motor to run continuously. Where absolute positioning with a direct current motor requires use of position feedback, absolute positioning with a stepper motor does not. Thus, had open loop direct current motor control been prior art in Semiconductor Process Equipment, the obviousness argument would be valid. Furthermore, the method of controlling a stepper motor by closed loop means is not commonly known, furthering the argument for nonobviousness of closed loop control in the art of Semiconductor Process Equipment.


Applicant respectfully requests that the Examiner amend the claims as proposed herein and add new claim 33, and then that he reconsider his rejection of these claims in view of the argument presented herein.

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests that the application be reconsidered, the claims be allowed, and the case passed to issue. If any impediment to the allowance of the claims remains after consideration of this request for reconsideration, and such impediment could be alleviated during a telephone interview, the Examiner is invited to telephone the undersigned so that such issues may be resolved as expeditiously as possible.

Respectfully submitted,

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